



DEPARTMENT OF THE ARMY  
HEADQUARTERS, US ARMY MEDICAL COMMAND  
2748 WORTH ROAD  
FORT SAM HOUSTON, TX 78234-6000

REPLY TO  
ATTENTION OF

MCPO

10 APR 2012

MEMORANDUM FOR Commanders, MEDCOM Major Subordinate Commands

SUBJECT: Heat Illness Prevention Program for the 2012 Heat Season

1. Heat illness continues to remain a significant threat to the health and operational readiness of our Soldiers. Exposure to extreme temperatures is the reality of unit preparation for operational missions. Leaders at all levels must assess the need for arduous training against the risk associated with training in warm weather environments.
2. The Armed Forces Health Surveillance Center reported 1,808 heat casualties in 2011 among the Army active component that required medical intervention or resulted in lost duty time. Leaders must be mindful that heat is not the only risk factor for heat-related illness and that heat casualties can occur at cooler temperatures throughout the year.
3. Over the past decade, the Army has reported an average of 2-3 Soldiers dying annually from heat stroke and many less severe forms of exertional heat illness with the majority mostly occurring during physical fitness training and/or testing. Most heat illness is preventable, and none should be fatal. Thorough mission assessment, planning, and implementation of mitigation measures are essential to prevent heat illness. Early recognition and treatment of military personnel presenting with symptoms of heat illness is the key to saving lives. All leaders must proactively implement preventive measures to mitigate the threat of heat casualties. Medical personnel must continue to assist commanders and non-commissioned officers in their efforts to protect our Soldiers.
4. The US Army Public Health Command provides excellent information and guidance for heat illness prevention at the following website:  
<http://phc.amedd.army.mil/topics/discond/hipss/Pages/HeatInjuryPrevention.aspx>. The enclosed information sheet on heat illness prevention provides additional guidance.
5. My points of contact are Mr. Paul Repaci, Health System Specialist, DSN 761-2949, commercial (703) 681-2949, [Paul.Repaci@us.army.mil](mailto:Paul.Repaci@us.army.mil) and LTC Bryony Soltis, Preventive Medicine Staff Officer, DSN 761-3160, commercial (703) 681-3160, [Bryony.W.Soltis@us.army.mil](mailto:Bryony.W.Soltis@us.army.mil).

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6. For technical information, points of contact are Dr. Michael Sawka, DSN 256-5665, commercial (508) 233-5665, [Michael.Sawka@us.army.mil](mailto:Michael.Sawka@us.army.mil) or Commander, US Army Research Institute of Environmental Medicine, DSN 256-4811, commercial (508) 233-4811.

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US ARMY RESERVE COMMAND (SURGEON)  
US ARMY TRAINING AND DOCTRINE COMMAND (SURGEON)  
US ARMY FORCES COMMAND (SURGEON)  
US ARMY MATERIEL COMMAND (SURGEON)  
US ARMY SPECIAL FORCES COMMAND (AOMD/SURGEON)  
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US ARMY SOUTH (SURGEON)  
US ARMY PACIFIC (SURGEON)  
US ARMY EUROPE (SURGEON)  
EIGHTH US ARMY (SURGEON)

## Information Sheet: Heat Illness Prevention Program

1. Commanders and healthcare providers should use TB MED 507, *Heat Stress Control and Heat Casualty Management*<sup>1</sup> to develop a comprehensive heat illness prevention program. This program should be complemented with Army Risk Management doctrine, as detailed in FM 5-19, *Composite Risk Management*. These documents provide the framework for early recognition of climatic injuries and implementation of preventive measures.
2. Four key variables interact to cause heat illness among Soldiers: (1) climate (temperature and humidity), (2) intensity and duration of activity, (3) clothing and equipment (e.g., body armor), and (4) individual risk factors. Therefore, heat illness prevention requires a comprehensive approach that incorporates risk management, education, acclimatization, and appropriate adjustment of activities to reduce risk.
  - a. Conducting operations in hot and humid environments (even with temperatures as low as 75 degrees F.) produce the most heat casualties.
  - b. Vigorously training unacclimatized personnel in a compressed timeframe in a warm and humid environment increases the risk of incurring a heat casualty.
  - c. Protective clothing and body armor increases heat strain. Work/rest schedules and water consumption should be modified in accordance with published guidance in TB MED 507, Table 3.1.
  - d. Individual risk factors include: lack of heat acclimatization, cumulative exposure to heat, poor physical fitness, overweight, concurrent illness, use of prescription and over-the-counter medications (such as antihistamines, blood pressure pills, and others), use of various dietary supplements (such as the stimulants synephrine and ephedra), recent or concurrent alcohol use, prior history of serious heat illness, certain skin disorders, inadequate hydration, and age older than 40.
3. Prevention and recognition of heat casualties requires education and training. New cadre and Soldiers in training environments receive heat illness prevention education in order to quickly recognize heat illness in others. Heat illness response drills further help units prepare to recognize and respond to heat illness.
4. Serious heat illness risk increases with subsequent days of exposure unless opportunities are provided to reduce heat load. Frequent reassessment is needed as some of risk factors associated with heat illness (paragraph 2d) change on a daily or even hourly basis.
5. Early and continued cooling of a suspected heat stroke victim is critical. Iced sheets are an effective portable means to provide cooling during training and sporting events. Instructions on the use of iced sheets can be found in TRADOC Regulation 350-29,

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<sup>1</sup> [http://www.army.mil/usapa/med/DR\\_pubs/dr\\_a/pdf/tbmed507.pdf](http://www.army.mil/usapa/med/DR_pubs/dr_a/pdf/tbmed507.pdf)

*Prevention of Heat and Cold Casualties*, Appendix D.<sup>2</sup> Soldiers training or working in warm weather who display mental status changes, regardless of body temperature, should be rapidly cooled to prevent serious heat injury or death and emergency medical services should be notified as soon as possible. AR 40-501, *Standards of Medical Fitness*, paragraph 3-45<sup>3</sup> provides updated definitions for heat illness and guidance for referral to a Medical Evaluation Board. The Consortium for Health and Military Performance (CHAMP), USU Consortium for Health and Military Performance, at Uniform Services University of the Health Sciences has website for clinical information for providers dealing with challenging return to duty issues.<sup>4</sup>

6. Commanders and healthcare providers should be aware that Soldiers may be consuming various supplements. Consumption of supplements containing stimulants such as ephedra, synephrine, and other such ingredients, is a risk factor for heat illness and heat injury. Data on dietary supplements taken within two weeks of a heat illness should be collected by healthcare providers and documented in available medical record systems (e.g., AHLTA, Essentris), both in the clinical note and using the E947.0 code with the appropriate extender code, if applicable.<sup>5</sup> Providers must also report this information to their local Preventive Medicine Service for entry in the Disease Reporting System internet (DRSi) and the Natural Medicines Watch reporting database.<sup>6</sup> This database has a dropdown menu with all supplements and drugs and the data are sent to the FDA as well as to the DoD Dietary Supplement Subcommittee for review.

7. Although most heat illness involves dehydration, leaders should be aware that deaths have occurred in Army personnel due to water intoxication from overhydration. Proper water consumption guidelines<sup>7</sup> should be followed in order to prevent overhydration. Hourly fluid intake should not exceed 1½ quarts and daily intake should not exceed 12 quarts. Refer to paragraph 3.6 in TB MED 507 for more detailed information.

8. All heat casualties that require medical intervention or result in lost duty time should be reported to the US Army Public Health Command using the DRSi as soon as possible after the diagnosis has been made or within 48 hours in accordance with AR 40-5, *Preventive Medicine*, paragraph 2-18.d. Information on DRSi is available at <http://phc.amedd.army.mil/topics/healthsurv/de/Pages/DRSiResources.aspx>, including links to the Tri-Service Reportable Events guidelines and from the DRSi HelpDesk (email: [disease.epidemiology@amedd.army.mil](mailto:disease.epidemiology@amedd.army.mil), phone: 410-417-2377 (DSN 867-2377)).

a. Satellite clinics without Preventive Medicine (PM) assets and DRSi accounts should forward case reports to the nearest PM Department for confirmation and

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<sup>2</sup> <http://www.tradoc.army.mil/TPUBS/regs/tr350-29.pdf>

<sup>3</sup> [http://armypubs.army.mil/epubs/pdf/r40\\_501.pdf](http://armypubs.army.mil/epubs/pdf/r40_501.pdf)

<sup>4</sup> <http://champ.usuhs.mil/>

<sup>5</sup> <http://phc.amedd.army.mil/PHC%20Resource%20Library/public%20health%20notice%200410-01.pdf>

<sup>6</sup> <http://hprc-online.org/dietary-supplements/natural-medicines-comprehensive-database>

<sup>7</sup> <http://usaphcapps.amedd.army.mil/hioshoppingcart/viewItem.aspx?id=53>

reporting. Heat illness at mobilization sites in Camp and Reserve areas should be reported to the nearest regional medical treatment facility (MTF).

b. PM personnel at MTFs who receive local heat illness reports should investigate serious events or illness clusters and report required information to US Army Public Health Command using DRSi. PM personnel should also coordinate with corresponding safety officers to ensure heat illness data are reported to the Army Safety channels IAW AR 385-10, *Army Safety Program*, Chapter 3.

9. Additional resources and guidance are available for leaders and medical personnel.

a. The US Army Public Health Command Heat Illness Prevention website <http://phc.amedd.army.mil/topics/discond/hipss/Pages/HeatInjuryPrevention.aspx> provides heat casualty prevention information such as the *Composite Risk Management for Heat Injury Prevention, Identification, and Response FY 2010*.<sup>8</sup> The US Army Research Institute of Environmental Medicine has additional resources such as the *Ranger & Airborne School Students Heat Acclimatization Guide*.<sup>9</sup> Subject matter expertise regarding heat casualty prevention and treatment can be obtained at <http://www.usariem.army.mil/>.

b. The US Army Training and Doctrine Command published regulation providing guidance to commanders for prevention of heat casualties, TRADOC Regulation 350-29, Prevention of Heat and Cold Casualties, 20 Jan 10, <http://www.tradoc.army.mil/tpubs/regs/tr350-29.pdf>.

c. The US Army Combat Readiness/Safety Center (USACRC) has ongoing heat illness prevention activities. USACRC publishes *Knowledge*, the official US Army safety magazine, which provides information on heat-related illness and prevention. In April 2012, USACRC will be kicking off the Safe Summer Campaign, which will have safety awareness information for all summer activities to include heat illness prevention, <http://safety.army.mil>.

d. The Uniformed Services University Consortium for Health and Military Performance is available electronically for clinical consultation on heat illness at [CHAMP@usuhs.mil](mailto:CHAMP@usuhs.mil).

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<sup>8</sup> <http://phc.amedd.army.mil/topics/discond/hipss/Pages/ResourceMaterials.aspx>

<sup>9</sup> <http://www.usariem.army.mil/Pages/download/heatacclimatizationguide.pdf>